

IP Level (ignore ARP)

1. DNS query from A
www.domain.com → IP addr

2. HTTP Level

TCP connect to www

- send www GET

- get response

- close connection

3 way handshake

4 packets



dest : www
src : A
dest MAC : m3
src MAC : m1

Sender	Rc'vr	Contents
A(m1)	All on net 1	Who owns ... 65.2
B(m2)	<u>A(m1)</u>	I do. My mac addr is m2 (ARP response)
A(m1)	B(m2)	DNS request (UDP/IP) What is IP addr of www?
B(m2)	A(m1)	DNS reply (UDP/IP) 192.31.67.6
A(m1)	All on net 1	ARP req. Who owns ... 65.254?
Router(m3)	A(m1)	I do ... m3 (ARP reply)
A(m1)	Router(m3)	TCP conn. request (SYN) to IP 192.31.67.6
Router(m4)	All on net 2	ARP req. who owns 192.31.67.6
www(m6)	Router(m4)	I do .. m6 (ARP reply)
Router(m4)	www(m6)	TCP conn. request forwarded
www(m6)	Router(m4)	TCP: SYN+ACK (to IP 191.31.65.1)
Router(m3)	A(m1)	TCP: SYN+ACK

A (M1)	Router (M3)	TCP: ACK
m4	m6	TCP: ACK
<u>m1</u>	m3	HTTP req GET / HTTP/1.0
m4	m6	HTTP reply
<u>m6</u>	m4	200 OK
m3	m1	"
m6	m4	TCP: FIN
<u>m3</u>	m1	"
m1	m3	TCP: ACK
<u>m4</u>	m6	"
m1	m3	TCP: FIN
<u>m4</u>	m6	"
m6	m4	TCP: ACK
<u>m3</u>	m1	

Need TCP ACKS here
(not presented
in lecture)